1   <u>Claims</u>

2

3   1.   A scalable routing system for distributing packets in a network, in-

4   cluding

5   a plurality of data compilers;

6   a plurality of port adapters connected to said data compilers;

7   a plurality of route processing engines; and

8   at least one structure connecting said plurality of route processing engines

9   to said data compilers.

10

11   2.   The scalable routing system of claim 1, including at least one uplink

12   connection to an external network connected to said at least one structure.

13

14   3.   The scalable routing system of claim 1, wherein said at least one

15   structure includes a crossbar.

16

17   4.   The scalable routing system of claim 1, wherein said at least one

18   structure includes a bus.

19

20   5.   The scalable routing system of claim 1, wherein said plurality of

21   data compilers use a hashing function to distribute packet flows among said plurality of

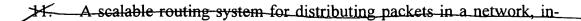22   route processing engines.

1

2 ~~6. The scalable routing system of claim 2, wherein both said plurality~~

3 of data compilers and ~~said at least~~ one uplink connection to an external network use a

4 ~~hashing function to distribute packet flows among said plurality of route processing en-~~

5 ~~gines.~~

6

7   7.   The scalable routing system of claim 6, wherein said hashing func-

8 tion is designed to maintain the original order of packets in the same flow while allowing

9 packets in different flows to be processed out of order.

10

11   8.   The scalable routing system of claim 6, wherein said hashing func-

12 tion is designed to maintain the original order of packets in the same flow while allowing

13 packets in different flows to be processed out of order.

14

15 ~~9. The scalable routing system of claim 8, whereby processing power~~

16 ~~of said system can be scaled by adding additional route processing engines to said plural-~~

17 ~~ity of route processing engines.~~

18

19   10.   The scalable routing system of claim 8, whereby the processing

20 power of said system can be scaled by adding additional route processing engines to said

21 plurality of route processing engines.

22

1 ~~11.   A scalable routing system for distributing packets in a network, in-~~

2 cluding

3   a plurality of network interfaces;

4   a plurality of route processing engines;

5   a fabric interconnecting said plurality of network interfaces and said plural-

6 ity of route processing engines;

7   wherein each of said plurality of network interfaces uses a hashing function

8 to distribute packet flows among said plurality of route processing engines; and

9   wherein the processing power of the scalable routing system can be scaled

10 by adding additional route processing engines to ~~said plurality of route processing~~

11 ~~engines.~~

12

13 12.   The scalable routing system of claim 11, wherein said fabric

14 includes a crossbar.

15

16   13.   The scalable routing system of claim 11, wherein said fabric

17 includes a bus.

18

19   14.   The scalable routing system of claim 11, wherein said hashing

20 function is designed to maintain the original order of packets in the same flow, while

21 allowing packets in different flows to be processed out of order.

22

15.   The scalable routing system of claim 11, wherein said network

interfaces include data compilers and port adapters.

16.   The scalable routing system of claim 15, wherein said network

interfaces include at least one uplink connection to an external network.